

GenCore version 4.5
Copyright (c) 1993 - 2000 CompuGen Ltd.

OW protein - protein search, using sw model

Run on: September 22, 2000, 21:13:53 ; Search time 156.42 Seconds
(without alignments)
1.981 Million cell updates/sec

Title: US-09-061-388-1
Perfect score: 46
Sequence: 1 EAAGIGLTV 10

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 85661 seqs, 30989116 residues
Total number of hits satisfying chosen parameters: 690

Minimum DB seq length: 0
Maximum DB seq length: 15

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database: SwissProt_38.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	24	52.2	13	1	FIBA_CAVPO P14445 cavia porce
2	21	45.7	10	1	TKU2_UREUN P40752 urechis uni
3	21	45.7	15	1	DIDH_PESP P80701 pseudomona
4	19	41.3	13	1	CRBL_ICASP P17337 icaria sp.
5	19	41.3	14	1	COCO_LIMPO P35586 limulus pol
6	18	39.1	15	1	UNO4_PINPS P81673 pinus pinas
7	17	37.0	10	1	VEG6_BACSU P80699 bacillus su
8	17	37.0	12	1	OPB3_DROVI P17645 drosophila
9	17	37.0	15	1	MILT_ONCKE P81037 oncorhynch
10	16	34.8	10	1	LABA_JATMU P13570 jatropa mu
11	16	34.8	12	1	TKNC_RANCA P22690 rana catesb
12	16	34.8	12	1	CD14_LITXA P56246 litorea xan
13	16	34.8	13	1	PSBP_PINPS P81668 pinus pinas
14	16	34.8	15	1	CDN2_LITGI P56247 litorea gill
15	16	34.8	15	1	CDN3_LITGI P56248 litorea gill
16	15	32.6	7	1	ALH2_CARMA P81805 carcinus ma
17	15	32.6	9	1	MGMT_BOVIN P29177 bos taurus
18	15	32.6	11	1	TKN_ELEMO P01293 eleone mos
19	15	32.6	13	1	HPAL_RANES P32415 rana escul
20	14	30.4	9	1	FAR9_ASCSU P43172 ascaris suu
21	14	30.4	10	1	CUSO_LOCHI P11735 locusta mig
22	14	30.4	10	1	FARC_CALVO P41667 calliphora
23	14	30.4	10	1	GAUV_HOMAN P01358 homo sapien
24	14	30.4	10	1	TKNB_RANRI P29135 rana rididu
25	14	30.4	10	1	TKN_PHYBI P08610 phyllomedus
26	14	30.4	10	1	TRP6_LEUMA P81738 leucophaea
27	14	30.4	10	1	URAL_HUMAN P32118 homo sapien
28	14	30.4	11	1	TKC2_CALVO P41518 calliphora
29	14	30.4	11	1	TKNA_GADMO P28498 gadus morhu
30	14	30.4	13	1	CHEP_PARID P42718 parapolybia
31	14	30.4	13	1	FARB_ASCSU P43173 ascaris suu
32	14	30.4	13	1	ORCK_ORCLI P37865 orconectes
33	14	30.4	14	1	FIBA_HORSE P14452 equus cabal

34	14	30.4	14	1	MAST_POLJA P01517 polistes ja
35	14	30.4	14	1	TEMA_RANTE P56917 rana tempor
36	14	30.4	14	1	TEMF_RANTE P56921 rana tempor
37	14	30.4	15	1	FIBA_ANAPL P12801 anas platyr
38	14	30.4	15	1	FIBA_SYNCA P14603 syncerus ca
39	14	30.4	15	1	KLOW_LUMTE P11918 lumbricus t
40	14	30.4	15	1	METK_MAIZE P80616 zea mays (m
41	14	30.4	15	1	RKGC_CARCR P21566 carretta car
42	14	30.4	15	1	RL11_STRAU P09520 streptomyce
43	13	28.3	8	1	UPHA_HUMAN P30026 homo sapien
44	13	28.3	8	1	VGLE_HSV2B P81780 herpes slimp
45	13	28.3	9	1	DSIP_RABIT P01158 oryctolagus

ALIGNMENTS

RESULT 1
FIBA_CAVPO STANDARD; PRT; 13 AA.
AC P14445:
DT 01-JAN-1990 (Rel. 13, Created)
DT 01-JAN-1990 (Rel. 13, Last sequence update)
DT 01-JAN-1990 (Rel. 13, Last annotation update)
DE FIBRINOPEPTIDE A.
OC Cavia porcellus (Guinea pig).
OC Eukaryote; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Hystriognathii; Caviidae; Cavia.
RN [1]
RP SEQUENCE.
RA Blomback B., Blomback M., Gron Dahl N.J.;
RT "Studies on fibrinopeptides from mammals."
RL Acta Chem. Scand. 19:1789-1791(1965).
CC -1- FUNCTION: FIBRINOGEN HAS A DOUBLE FUNCTION: YIELDING MONOMERS THAT
CC POLYMERIZE INTO FIBRIN AND ACTING AS A COFACTOR IN PLATELET
CC AGGREGATION.
CC -1- SUBUNIT: HEXAMER CONTAINING 2 SETS OF 3 NONIDENTICAL CHAINS
CC (ALPHA, BETA, & GAMMA), LINKED TO EACH OTHER BY DISULFIDE BONDS.
CC -1- MISCELLANEOUS: CONVERSION OF FIBRINOGEN TO FIBRIN IS TRIGGERED BY
CC THROMBIN, WHICH CLEAVES FIBRINOPEPTIDES A AND B FROM ALPHA & BETA
CC CHAINS, AND THUS EXPOSES THE N-TERMINAL POLYMERIZATION SITES
CC RESPONSIBLE FOR THE FORMATION OF THE SOFT CLOT.
KW Blood coagulation; Plasma.
FT NON_TER 13
SQ SEQUENCE 13 AA; 1309 MW; 639999286C79DDDB CRC64;

Query Match 52.2%; Score 24; DB 1; Length 13;
Best Local Similarity 71.4%; Pred. No. 1.1e+02;
Matches 5; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

OY 1 EAAGIGI 7
DB 6 EAAGGV 12

RESULT 2
TKU2_UREUN STANDARD; PRT; 10 AA.
AC P40752:
DT 01-FEB-1995 (Rel. 31, Created)
DT 01-FEB-1995 (Rel. 31, Last sequence update)
DT 01-NOV-1995 (Rel. 32, Last annotation update)
DE URECHISCHYRININ II.
OS Urechis unidictus.
OC Eukaryota; Metazoa; Echinura; Xenopneusta; Urechidae; Urechis.
RN [1]
RP SEQUENCE, AND SYNTHESIS.
RC TISSUE-VENTRAL NERVE CORD;
RX MEDLINE: 93236558.
RA Ikeda T., Minakata H., Nomoto K., Kubota I., Muneoka Y.;
RT "Two novel tachykinin-related neuropeptides in the echinoid worm,
Urechis unidictus.";

RL Biochem. Biophys. Res. Commun. 192:1-6(1993).
 CC -1- FUNCTION: CONTRACTILE ACTION ON THE INNER CIRCULAR BODY-WALL
 CC MOSCLE OF THE ANIMAL.
 CC -1- SIMILARITY: SOME SIMILARITY TO TACHYKININS.
 KM Tachykinin: Neuropeptide; Amidation.
 FT MOD RES 10 10 AMIDATION.
 SO SEQUENCE 10 AA: 984 MW: 3558DD79C9C87698 CRC64;

Query Match 45.7%; Score 21; DB 1; Length 10;
 Best Local Similarity 80.0%; Pred. No. 3.2e+02;
 Matches 4; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

OY 2 AAGTG 6
 DB 1 AAGMG 5

RESULT 3
 DIDH_PSESP STANDARD: PRT: 15 AA.
 AC P80701; 01-OCT-1996 (Rel. 34, Created)
 DT 01-OCT-1996 (Rel. 34, Last sequence update)
 DT 01-NOV-1997 (Rel. 35, Last annotation update)
 DE 3-ALPHA-HYDROXYSTEROID DEHYDROGENASE (EC 1.1.1.50) (3-ALPHA-HSD)
 DE (HYDROXYPROSTAGLANDIN DEHYDROGENASE) (HSD29) (FRAGMENT).
 OS Pseudomonas sp.
 CC Bacteria; Proteobacteria.
 RN [1]
 RP SEQUENCE.
 RX MEDLINE: 97100200.
 RA Opermann U.C.T., Maser E.;
 RT "Characterization of a 3 alpha-hydroxysteroid dehydrogenase/carbonyl
 reductase from the gram-negative bacterium Comamonas testosteroni";
 RL Eur. J. Biochem. 241:744-749(1996).
 CC -1- FUNCTION: ALONG WITH THE 3 ALPHA-HYDROXYSTEROID DEHYDROGENASE AND
 3-OXO-REDUCTASE ACTIVITIES TOWARDS A VARIETY OF CIS OR TRANS FUSED
 A/B RING STEROIDS, IT ALSO REDUCES SEVERAL XENOBIOTIC CARBONYL
 CC COMPOUNDS, INCLUDING A METHYRAPONE-BASED CLASS OF INSECTICIDES, TO
 CC THE RESPECTIVE ALCOHOL METABOLITES.
 CC -1- CATALYTIC ACTIVITY: ANDROSTERONE + NAD(P)(+) -
 CC 5-ALPHA-ANDROSTANE-3,17-DIONE + NAD(P)H.
 CC -1- SUBCELLULAR LOCATION: CYTOSOL.
 CC -1- SIMILARITY: BELONGS TO THE SHORT-CHAIN DEHYDROGENASES/REDUCTASES
 CC (SDR) FAMILY.
 CC PROSITE: PS00061; ADH_SHORT; PARTIAL.
 KM Oxidoreductase; NAD.
 FT DOMAIN 6 >15 INVOLVED IN COFACTOR BINDING
 FT NON_TER 15 15
 FT SEQUENCE 15 AA: 1315 MW: 950686DD070A7790 CRC64;

Query Match 45.7%; Score 21; DB 1; Length 15;
 Best Local Similarity 80.0%; Pred. No. 4.6e+02;
 Matches 4; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

OY 2 AAGTG 6
 DB 9 AAGTG 13

RESULT 4
 CRBL_ICASP STANDARD: PRT: 13 AA.
 AC P1737; 01-AUG-1990 (Rel. 15, Created)
 DT 01-AUG-1990 (Rel. 15, Last sequence update)
 DT 15-DEC-1998 (Rel. 37, Last annotation update)
 DE CHEMORACTIC PEPTIDE (I-CP).
 OS Icarlia sp. (Ropalidatan wasp).
 CC Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;

OC Pterygota; Neoptera; Endopterygota; Hymenoptera; Apocrita; Aculeata;
 CC Vespididae; Vespidae; Polistinae; Icarlia.

RP SEQUENCE.
 RC TISSUE-VENOM;
 RA Yasuhara T., Itohawa H., Suzuki N., Nakamura H., Nakajima T.;
 RL (in) Izumiyu N. (eds.); pp.177-182, Protein Research Foundation,
 Osaka (1985).
 CC -1- FUNCTION: NAST CELL DEGRANULATING PEPTIDE. INDUCES THE CHEMOTAXIS
 CC OF NEUTROPHILS.
 KM Mast cell degranulation; Chemotaxis; Venom; Amidation.
 FT MOD RES 13 13
 SO SEQUENCE 13 AA: 1353 MW: 348BDC7AA30A3768 CRC64;

Query Match 41.3%; Score 19; DB 1; Length 13;
 Best Local Similarity 60.0%; Pred. No. 9.5e+02;
 Matches 3; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

OY 5 IGLTV 9
 DB 9 IGLTV 13

RESULT 5
 COCO_LIMPO STANDARD: PRT: 14 AA.
 AC P35586; 01-JUN-1994 (Rel. 29, Created)
 DT 01-JUN-1994 (Rel. 29, Last sequence update)
 DT 15-DEC-1998 (Rel. 37, Last annotation update)
 DE COCOONASE (EC 3.4.21.-) (FRAGMENT).
 OS Limulus polyphemus (Atlantic horseshoe crab).
 CC Eukaryota; Metazoa; Arthropoda; Chelicerata; Merostomata; Xiphosura;
 CC Limulidae; Limulus.
 RN [1]
 RP SEQUENCE.
 RX MEDLINE: 78037243.
 RA Law J.H., Dunn P.E., Kramer K.J.;
 RT "Insect proteases and peptidases";
 RL Adv. Enzymol. Relat. Areas Mol. Biol. 45:389-425(1977).
 CC -1- CATALYTIC ACTIVITY: PREFERENTIAL CLEAVAGE: ARG-, LYS-.
 CC -1- SUBCELLULAR LOCATION: EXTRACELLULAR.
 CC -1- SIMILARITY: BELONGS TO PEPTIDASE FAMILY S1; ALSO KNOWN AS THE
 CC TRYPSIN FAMILY.
 CC HSP: P00760; 4TPI.
 DR PROSITE: PS00134; TRYPsin_HIS; PARTIAL.
 DR PROSITE: PS00135; TRYPsin_SER; PARTIAL.
 KM Hydrolase; Serine protease.
 FT NON_TER 14 14
 FT SEQUENCE 14 AA: 1452 MW: 1615FBID73747570 CRC64;

Query Match 41.3%; Score 19; DB 1; Length 14;
 Best Local Similarity 83.3%; Pred. No. 1e+03;
 Matches 5; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

OY 5 IGLTV 10
 DB 7 IGLTV 12

RESULT 6
 UN04_PINPS STANDARD: PRT: 15 AA.
 AC P81673; 15-JUL-1999 (Rel. 38, Created)
 DT 15-JUL-1999 (Rel. 38, Last sequence update)
 DT 15-JUL-1999 (Rel. 38, Last annotation update)
 DE UNKNOWN PROTEIN FROM 2D-PAGE OF NEEDLES (NL43) (FRAGMENT).
 OS Pinus pinaster (Maritime pine).
 CC Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta;

```

OC Coniferopsida; Coniferales; Pinaceae; Pinus.
RN [1]
RP SEQUENCE.
RC TISSUE-NEEDLE:
RX MEDLINE: 99274088.
RA Costa P., Pionneau C., Bauw G., Dubos C., Bahman N., Kremer A.,
RT Figuerio J.-M., Plomion C.;
RT "Separation and characterization of needle and xylem maritime pine
RT proteins."
RL Electrophoresis 20:11098-11081(1999).
CC -1- INDUCTION: BY WATER-STRESS.
CC -1- MISCELLANEOUS: ON THE 2D-GEL THE DETERMINED PI OF THIS UNKNOWN
CC PROTEIN IS: 6.2, ITS MW IS: 21 KDA.
FT NON_TER 1 1
FT NOY_TER 15 15
FT SEQUENCE 15 AA: 1489 MW: C64D85E9308227A CRC64;

Query Match 39.1%; Score 18; DB 1; Length 15;
Best Local Similarity 66.7%; Pred. No. 1.6e+03;
Matches 4; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

OY 1 EAGIG 6
DB 6 EAAAG 11

RESULT 7
VEG6_BACSU STANDARD: PRT: 10 AA.
ID VEG6_BACSU
DT 01-OCT-1996 (Rel. 34, Created)
DT 01-OCT-1996 (Rel. 34, Last sequence update)
DT 15-JUL-1998 (Rel. 36, Last annotation update)
DE VEGETATIVE PROTEIN 6 (VEG6) (FRAGMENT).
GN yz21.
OS Bacillus subtilis.
OC Bacteria; Firmicutes; Bacillus/clostridium group;
OC Bacillus/staphylococcus group; Bacillus.
RN [1]
RP SEQUENCE.
RC STRAIN-IS58.
RX MEDLINE: 97337728.
RA Schmid R., Berhardt J., Antelmann H., Voelker U., Mach H.,
RT Voelker A., Hecker M.;
RT "Identification of vegetative proteins for a two-dimensional protein
RT index of Bacillus subtilis."
RL Microbiology 143:991-998(1997).
DR SUBTLIST: BG19024; yz21.
FT NON_TER 10 10
FT SEQUENCE 10 AA: 973 MW: 8793A6B2C8772861 CRC64;

Query Match 37.0%; Score 17; DB 1; Length 10;
Best Local Similarity 50.0%; Pred. No. 1.8e+03;
Matches 2; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

OY 4 GIGI 7
DB 4 GIGV 7

RESULT 8
OPS3_DROVI STANDARD: PRT: 12 AA.
ID OPS3_DROVI
AC P17645;
DT 01-AUG-1990 (Rel. 15, Created)
DT 01-AUG-1990 (Rel. 15, Last sequence update)
DT 01-FEB-1996 (Rel. 33, Last annotation update)
DE OPSIN RH3 (INNER R7 PHOTORECEPTOR CELLS OPSIN) (FRAGMENT).
GN RH3.
OS Drosophila virilis (Fruit fly).
OC Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;

```

```

OC Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
OC Ephydroidea; Drosophilidae; Drosophila.
RN [1]
RP SEQUENCE FROM N. A.
RX MEDLINE: 90249748.
RA Fortini M.E., Rubin G.M.;
RT "Analysis of cis-acting requirements of the Rh3 and Rh4 genes reveals
RT a bipartite organization to rhodopsin promoters in Drosophila
RT melanogaster."
RL Genes Dev. 4:444-463(1990).
CC -1- FUNCTION: VISUAL PIGMENTS ARE THE LIGHT-ABSORBING MOLECULES THAT
CC MEDiate VISION. THEY CONSIST OF AN APOPROTEIN, OPSIN, COVALENTLY
CC LINKED TO CIS-RETINAL.
CC -1- SUBCELLULAR LOCATION: INTEGRAL MEMBRANE PROTEIN.
CC -1- MISCELLANEOUS: EACH DROSOPHILA EYE IS COMPOSED OF 800 FACETS OR
CC OMATIDIA. EACH OMATIDIUM CONTAINS 8 PHOTORECEPTOR CELLS (R1-R8),
CC THE R1 TO R6 CELLS ARE OUTER CELLS, WHILE R7 AND R8 ARE INNER
CC CELLS.
CC -1- MISCELLANEOUS: OPSIN RH3 IS SENSITIVE TO UV LIGHT.
CC -1- SIMILARITY: BELONGS TO FAMILY 1 OF G-PROTEIN COUPLED RECEPTORS.
CC OPSIN SUBFAMILY.
CC -----
CC THIS SWISS-PROT entry is copyright. It is produced through a collaboration
CC between the Swiss Institute of Bioinformatics and the EMBL Outstation -
CC the European Bioinformatics Institute. There are no restrictions on its
CC use by non-profit institutions as long as its content is in no way
CC modified and this statement is not removed. Usage by and for commercial
CC entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC or send an email to license@isb-sib.ch).
CC -----
CC EMBL: X51350; CAA35742.1; -.
CC DR GCRBA: GCR.079; -.
CC DR FLYBASE: FBgn0013091; Dv1r\Rh3.
CC DR PROSITE: PS00237; G-PROTEIN_RECEPTOR: PARTIAL.
CC DR PROSITE: PS00238; OPSIN: PARTIAL.
CC KW Photoreceptor; Retinal protein; Transmembrane; Phosphorylation;
CC FM Glycoprotein; G-protein coupled receptor; Vision.
CC FT CARBOHYD 10 10
CC FT NON_TER 12 12
CC FT SEQUENCE 12 AA: 1253 MW: 04024E3495865B0 CRC64;

Query Match 37.0%; Score 17; DB 1; Length 12;
Best Local Similarity 75.0%; Pred. No. 2.1e+03;
Matches 3; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

OY 3 AGIG 6
DB 6 SGIG 9

RESULT 9
MILT_ONCKE STANDARD: PRT: 15 AA.
ID MILT_ONCKE
AC P81037;
DT 01-NOV-1997 (Rel. 35, Created)
DT 01-NOV-1997 (Rel. 35, Last sequence update)
DT 15-DEC-1998 (Rel. 37, Last annotation update)
DE MILTRAIN (EC 3.4.22.-) (FRAGMENT).
OS Oncorhynchus keta (Chum salmon).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
RN [1]
RP SEQUENCE AND CHARACTERIZATION.
RX MEDLINE: 97397031.
RA Kawabata C., Ichishima E.;
RT "Miltain, new cysteine protease from the milt of chum salmon,
RT Oncorhynchus keta."
RL Comp. Biochem. Physiol. 117B:445-452(1997).
CC -1- FUNCTION: CYSTEINE PROTEINASE THAT HYDROLYSES BASIC PROTEINS.
CC HYDROLIZE BASIC PROTEINS SUCH AS HISTONE, SALMINE AND CLUPAINE BUT
CC NOT MILK CASEIN.

```

CC -1- CATALYTIC ACTIVITY: PREFERENTIAL CLEAVAGE WITH BASIC RESIDUES AT
 CC P2 AND P1.
 KM Hydrolase. 15
 FT NON-TER 15
 SQ SEQUENCE 15 AA: 1730 MW: 766B7771C0F888E7 CRC64;

Query Match 37.0%; Score 17; DB 1; Length 15;
 Best Local Similarity 50.0%; Pred. No. 2.7e+03;
 Matches 4; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

OY 1 ENAGICIL 8
 DB 8 EMGYNIL 15

RESULT 10
 LABA_JATMU STANDARD: PRT: 10 AA.
 AC P13370;
 DT 01-JAN-1990 (Rel. 13, Created)
 DT 01-JAN-1990 (Rel. 13, Last sequence update)
 DT 01-OCT-1996 (Rel. 34, Last annotation update)
 DE LABADITIN.
 OS Jatropha multifida (Physic nut).
 CC Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta;
 CC Magnoliophyta; eudicotyledons; Rosidae; eurosids I; Malpighiales;
 CC Euphorbiaceae; Jatropha.
 RN [1]
 RP SEQUENCE.
 RC TISSUE=LATEX;
 RA Kosasi S., van der Sluis W.G., Boelens R., Hart L.A., Labadie R.P.;
 RT "Labaditin, a novel cyclic decapeptide from the latex of Jatropha
 multifida L. (Euphorbiaceae). Isolation and sequence determination
 by means of two-dimensional NMR.";
 RL FEBS Lett. 256:91-96(1989).
 CC -1- FUNCTION: LABADITIN IS AN ACTIVE PEPTIDE WHICH INHIBITS THE
 CLASSICAL PATHWAY OF COMPLEMENT ACTIVATION IN VITRO. ACTIVITY
 SEEMS TO BE BASED ON AN INTERACTION WITH C1.
 CC -1- DISEASE: LATEX OF THIS PLANT IS USED IN FOLKLORE MEDICINE FOR
 CC TREATMENT OF INFECTED WOUNDS, SKIN INFECTIONS AND SCABIES.
 CC -1- CAUTION: THIS IS A CYCLIC PEPTIDE.
 KM Latex.
 SQ SEQUENCE 10 AA: 1089 MW: D98AAD6362DIB362 CRC64;

Query Match 34.8%; Score 16; DB 1; Length 10;
 Best Local Similarity 60.0%; Pred. No. 2.7e+03;
 Matches 3; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

OY 6 GILTV 10
 DB 2 GVMTV 6

RESULT 11
 TKNC_RANCA STANDARD: PRT: 10 AA.
 ID TKNC_RANCA
 AC P22690;
 DT 01-AUG-1991 (Rel. 19, Created)
 DT 01-AUG-1991 (Rel. 19, Last sequence update)
 DT 15-FEB-2000 (Rel. 39, Last annotation update)
 DE RANATACHIRININ C (RTK C).
 OS Rana catesbeiana (Bull frog).
 CC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 CC Amphibia; Batrachia; Anura; Neobatrachia; Ranidae; Rana.
 RN [1]
 RP SEQUENCE, AND SYNTHESIS.
 RC TISSUE=INTESTINE;
 RX MEDLINE: 91254337.
 RA Kozawa H., Hino J., Minamino N., Kangawa K., Matsuo H.;
 RT "Isolation of four novel tachykinins from frog (Rana catesbeiana)
 brain and intestine.";

RL Biochem. Biophys. Res. Commun. 177:588-595(1991).
 RN [2]
 RP SEQUENCE.
 RC TISSUE=INTESTINE;
 RX MEDLINE: 94023216.
 RA Kangawa K., Kozawa H., Hino J., Minamino N., Matsuo H.;
 RT "Four novel tachykinins in frog (Rana catesbeiana) brain and
 intestine.";
 RL Regul. Pept. 46:81-88(1993).
 CC -1- FUNCTION: TACHYKININS ARE ACTIVE PEPTIDES WHICH EXCITE NEURONS,
 CC EVOLVE BEHAVIORAL RESPONSES, ARE POTENT VASODILATORS AND
 CC SECRETAGOGUES, AND CONTRACT (DIRECTLY OR INDIRECTLY) MANY SMOOTH
 CC MUSCLES.
 CC -1- SIMILARITY: BELONGS TO THE TACHYKININ FAMILY.
 DR PIR: JEO428; JEO428.
 DR PIR: C61033; C61033.
 DR PROSITE: PS00267; TACHYKININ; 1.
 KM Tachykinin; Neuropeptide; Amidation.
 FT MOD.RES 10
 SQ SEQUENCE 10 AA: 1086 MW: 3A3A407059D5BC7 CRC64;

Query Match 34.8%; Score 16; DB 1; Length 10;
 Best Local Similarity 42.9%; Pred. No. 2.7e+03;
 Matches 3; Conservative 3; Mismatches 1; Indels 0; Gaps 0;

OY 2 AAGICIL 8
 DB 4 ASFICIL 10

RESULT 12
 C014_LITXA STANDARD: PRT: 12 AA.
 ID C014_LITXA
 AC P36246;
 DT 15-JUL-1998 (Rel. 36, Created)
 DT 15-JUL-1998 (Rel. 36, Last sequence update)
 DT 15-DEC-1998 (Rel. 37, Last annotation update)
 DE CAERIDIN 1.4.
 OS Litoria xanthomera (Orange-thighed frog), and
 OS Litoria chloris (Blue-thighed frog).
 CC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 CC Amphibia; Batrachia; Anura; Neobatrachia; Bufonidae; Hylidae;
 CC Litoria.
 RN [1]
 RP SEQUENCE, AND MASS SPECTROMETRY.
 RC SPECIES=L.XANTHOMERA;
 RX MEDLINE: 97374000.
 RA Steinboerner S.T., Waugh R.J., Bowle J.H., Wallace J.C., Tyler M.J.,
 RA Ramsay S.L.;
 RT "New caerin antibacterial peptides from the skin glands of the
 RT Australian tree frog Litoria xanthomera.";
 RL J. Pept. Sci. 3:181-185(1997).
 RN [2]
 RP SEQUENCE.
 RC SPECIES=L.CHLORIS; TISSUE=SKIN;
 RX MEDLINE: 98175802.
 RA Steinboerner S.T., Currie G.J., Bowle J.H., Wallace J.C., Tyler M.J.;
 RT "New antidiabetic caerin 1 peptides from the skin secretion of the
 RT Australian tree frog Litoria chloris. Comparison of the activities of
 RT the caerin 1 peptides from the genus Litoria.";
 RL J. Pept. Res. 51:121-126(1998).
 CC -1- FUNCTION: CAERIDINS SHOW NEITHER NEUROPEPTIDE ACTIVITY NOR
 CC ANTI-BIOTIC ACTIVITY.
 CC -1- TISSUE SPECIFICITY: SECRETED BY THE SKIN DORSAL GLANDS.
 CC -1- MASS SPECTROMETRY: MW=1096; METHOD=FA-MS.
 KM Amphibian skin; Amidation.
 FT MOD.RES 12
 SQ SEQUENCE 12 AA: 1097 MW: 28225503E3772728 CRC64;

Query Match 34.8%; Score 16; DB 1; Length 12;
 Best Local Similarity 50.0%; Pred. No. 3.1e+03;

Matches 2; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

OY 4 GIGI 7
1:1:
DB 9 GIGI 12

RESULT 13

PSBP_PINPS STANDARD: PRT: 13 AA.

AC P81668;

DT 15-JUL-1999 (Rel. 36, Created)

DT 15-JUL-1999 (Rel. 36, Last sequence update)

DT 15-JUL-1999 (Rel. 36, Last annotation update)

DE OXYGEN-EVOLVING ENHANCER PROTEIN 2 (OEE2) (23 KDA SUBUNIT OF OXYGEN

EVOLVING SYSTEM OF PHOTOSYSTEM II) (FRAGMENT).

GN PSBP.

OS Pinus pinaster (Maritime pine).

OC Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta;

OC Coniferopsida; Coniferales; Pinaceae; Pinus.

RN [1]

RP SEQUENCE.

RC TISSUE-NEEDLE;

RA MEDLINE; 99274088.

RA Costa P., Plomieu C., Bauw G., Dubos C., Bahrman N., Kremer A.,

RA Frigerio J.-M., Plomieu C.;

RT *Separation and characterization of needle and xylem maritime pine

RT proteins.*;

RL Electrophoresis 20:1098-1108(1999).

CC -1- FUNCTION: ASSOCIATED WITH THE OXYGEN-EVOLVING COMPLEX OF

CC PHOTOSYSTEM II (BY SIMILARITY).

CC -1- SUBCELLULAR LOCATION: CHLOROPLAST THYLAKOID MEMBRANE; ASSOCIATED

CC WITH THE PHOTOSYSTEM II COMPLEX (BY SIMILARITY).

CC -1- MISCELLANEOUS: ON THE 2D-GEL, THE DETERMINED PI OF THIS PROTEIN

CC (SPOT N179) IS: 5.9, ITS MW IS: 22 KDA.

CC -1- SIMILARITY: TO OTHER OEE2 SUBUNITS.

KM Photosynthesis; Photosystem II; Chloroplast; Thylakoid membrane.

FT NON_TER

SO SEQUENCE 13 AA; 1294 MM; C6772B0D54D7C44D CRC64;

Query Match 34.8%; Score 16; DB 1; Length 13;

Best Local Similarity 60.0%; Pred. No. 3.4e+03;

Matches 3; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

OY 1 EAGI 5
1:1:
DB 4 EAGI 8

RESULT 14

CDN2_LITGI STANDARD: PRT: 15 AA.

AC P56247;

DT 15-JUL-1998 (Rel. 36, Created)

DT 15-JUL-1998 (Rel. 36, Last sequence update)

DT 15-JUL-1998 (Rel. 36, Last annotation update)

DE CAERIDIN 2

OS Litoria gilleni.

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Amphibia; Batrachia; Anura; Neobatrachia; Bufonidae; Hylidae;

OC Litoria.

RN [1]

RP SEQUENCE. AND MASS SPECTROMETRY.

RC TISSUE-PAROTOID GLAND.

RA Waugh R.J., Stone D.J.M., Bowle J.H., Wallace J.C., Tyler M.J.;

RT *Peptides from Australian frogs. The structures of the caerins and

RT caeridins from Litoria gilleni.*;

RL J. Chem. Res. 139:937-961(1993).

CC -1- FUNCTION: CAERIDINS SHOW NEITHER NEUROPEPTIDE ACTIVITY NOR

CC ANTI-BIOTIC ACTIVITY.

CC -1- TISSUE SPECIFICITY: SECRETED BY THE SKIN PAROTOID AND/OR ROSTRAL

CC GLANDS.

CC -1- MASS SPECTROMETRY: MW=1408; METHOD=FAB.

KM Amphibian skin; Amidation.

FT MOD_RES 15 AA; 1410 MM; 06F1BBF272550CBF CRC64;

SO SEQUENCE 15 AA; 1410 MM; 06F1BBF272550CBF CRC64;

Query Match 34.8%; Score 16; DB 1; Length 15;

Best Local Similarity 50.0%; Pred. No. 3.8e+03;

Matches 2; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

OY 4 GIGI 7
1:1:
DB 12 GIGI 15

RESULT 15

CDN3_LITGI STANDARD: PRT: 15 AA.

AC P56248;

DT 15-JUL-1998 (Rel. 36, Created)

DT 15-JUL-1998 (Rel. 36, Last sequence update)

DT 15-JUL-1998 (Rel. 36, Last annotation update)

DE CAERIDIN 3.

OS Litoria gilleni.

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Amphibia; Batrachia; Anura; Neobatrachia; Bufonidae; Hylidae;

OC Litoria.

RN [1]

RP SEQUENCE. AND MASS SPECTROMETRY.

RC TISSUE-PAROTOID GLAND.

RA Waugh R.J., Stone D.J.M., Bowle J.H., Wallace J.C., Tyler M.J.;

RT *Peptides from Australian frogs. The structures of the caerins and

RT caeridins from Litoria gilleni.*;

RL J. Chem. Res. 139:937-961(1993).

CC -1- FUNCTION: CAERIDINS SHOW NEITHER NEUROPEPTIDE ACTIVITY NOR

CC ANTI-BIOTIC ACTIVITY.

CC -1- TISSUE SPECIFICITY: SECRETED BY THE SKIN PAROTOID AND/OR ROSTRAL

CC GLANDS.

CC -1- MASS SPECTROMETRY: MW=1428; METHOD=FAB.

KM Amphibian skin; Amidation.

FT MOD_RES 15 AA; 1430 MM; 06E90A797AF70CBF CRC64;

SO SEQUENCE 15 AA; 1430 MM; 06E90A797AF70CBF CRC64;

Query Match 34.8%; Score 16; DB 1; Length 15;

Best Local Similarity 50.0%; Pred. No. 3.8e+03;

Matches 2; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

OY 4 GIGI 7
1:1:
DB 12 GIGI 15

Search completed: September 22, 2000, 22:43:03
Job time: 5350 sec

GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.

OM protein - protein search, using sw model

Run on: September 22, 2000, 18:25:12 : Search time 275.57 Seconds
(without alignments)
0.860 Million cell updates/sec

Title: US-09-061-388-1
Perfect score: 46
Sequence: 1 EAAGIGILTV 10

Scoring table: BLOSUM62
Gapop 10.0, Gapext 0.5

Searched: 188963 seqs, 23686106 residues

Total number of hits satisfying chosen parameters: 76368

Minimum DB seq length: 0
Maximum DB seq length: 15

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database: A_Geneseq_36.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	46	100.0	10	1 R84197	MART-1 melanoma an
2	46	100.0	10	1 W07380	MART-1 epitope rec
3	46	100.0	10	1 W22039	Antigenic MART-1 p
4	46	100.0	10	1 W32269	Tumour rejection a
5	46	100.0	10	1 W39447	Human HLA-A*0201.1
6	46	100.0	10	1 W54809	Peptide 1 from Mar
7	46	100.0	10	1 W98939	Human leukocyte an
8	46	100.0	10	1 Y00712	Tumour antigen boo
9	46	100.0	10	1 Y01750	Exemplary antigen
10	46	100.0	10	1 R84196	MART-1 melanoma an
11	41	89.1	9	1 W07379	MART-1 epitope rec
12	41	89.1	9	1 W35512	MART-1/Melan-A pro
13	41	89.1	9	1 W39430	Human immunogenic
14	41	89.1	9	1 W42523	Melan A/MART epito
15	41	89.1	9	1 W54602	Peptide 1 from Mel
16	41	89.1	9	1 W68380	Human MART1/MELAN-
17	41	89.1	9	1 W77123	MART-1/MelanA synt
18	41	89.1	9	1 W98938	Human leukocyte an
19	41	89.1	9	1 Y00713	Tumour antigen boo
20	41	89.1	9	1 Y10601	HLA Class I motif
21	41	89.1	9	1 Y10567	HLA Class I motif
22	41	89.1	9	1 Y10444	HLA Class I motif
23	41	89.1	9	1 Y01751	Exemplary antigen
24	41	89.1	10	1 R84198	MART-1 melanoma an
25	41	89.1	10	1 W07381	MART-1 epitope rec
26	41	89.1	10	1 W98934	Human leukocyte an
27	41	89.1	10	1 W98935	Human leukocyte an
28	41	89.1	10	1 W98936	Human leukocyte an
29	41	89.1	10	1 W98937	Human leukocyte an
30	41	89.1	10	1 W98938	Human leukocyte an
31	41	89.1	10	1 W98939	Human leukocyte an
32	41	89.1	10	1 W98940	Human leukocyte an
33	41	89.1	10	1 W98941	Human leukocyte an

34	41	89.1	10	1 W98927	Human leukocyte an
35	41	89.1	10	1 W98928	Human leukocyte an
36	41	89.1	12	1 W22038	Antigenic MART-1 p
37	37	80.4	9	1 R84787	Modified MART-1 me
38	37	80.4	9	1 R84788	Modified MART-1 me
39	37	80.4	9	1 R84786	Modified MART-1 me
40	37	80.4	9	1 W42524	Melan A/MART (res)
41	37	80.4	9	1 W42525	Melan A/MART epito
42	37	80.4	9	1 W42532	Melan A/MART epito
43	37	80.4	9	1 W45778	Melan A/MART epito
44	37	80.4	9	1 W98932	Human leukocyte an
45	37	80.4	9	1 W98933	Human leukocyte an

ALIGNMENTS

```

RESULT 1
ID R84197 standard; Peptide: 10 AA.
AC R84197:
DT 20-APR-1996 (first entry)
DE MART-1 melanoma antigen immunogenic peptide M10-3 derivative.
KW MART-1; M10-3; melanoma antigen recognised by T-cells; melanoma;
KW metastatic melanoma; tumour-associated antigen;
KW immunogenic peptide; diagnosis; prognosis; prophylaxis;
KW therapy; vaccine.
OS Synthetic.
PN W09529193-A2.
PD 02-NOV-1995.
PF 21-APR-1995; U05063.
PR 22-APR-1994; US-231565.
PR 05-APR-1995; US-417174.
PA (USSH ) OS SEC DEPT HEALTH.
PI KavaKani Y, Rosenberg SA:
DR WPI: 95-382963/49.
PT DNA encoding melanoma antigens recognised by T-lymphocytes - also
PT vectors, host cells and antibodies, used to detect, treat and
PT immunise animal against melanoma.
PS Claim 12; Page 122; 184pp; English.
CC Immunogenic peptide M10-3 is a derivative of peptide M9-2 (R84196)
CC which is based on the melanoma antigen (MART-1) (see R84212).
CC M9-2 may be modified to improve immunogenicity (see R84783-R84800)
CC and used in medicaments for the treatment or prevention (by
CC immunization) of melanoma. Antibodies against MART-1 and its
CC immunogenic peptides may be used in the detection and isolation of
CC MART-1 from a sample, the detection of which is indicative of a
CC disease state (melanoma or metastatic melanoma).
CC See also R84198.
SO Sequence 10 AA:

Query Match 100.0%; Score 46; DB 1; Length 10;
Best Local Similarity 100.0%; Pred. No. 0.002;
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
DB 1 EAAGIGILTV 10

RESULT 2
ID W07380 standard; Peptide: 10 AA.
AC W07380:
DT 28-JUL-1997 (first entry)
DE MART-1 epitope recognised by melanoma specific T cell receptor.
KW T cell; receptor; lymphocyte; alpha; beta chain; V; variable;
KW joining; D; diversity; gene segment; probe; detection;
KW recombination; melanoma; cancer; neoplasia; tumour; diagnosis;
KW MART; Melanoma Antigen Recognised by T lymphocyte.
OS Homo sapiens.
PN W09630516-A1.

```

PD 03-OCT-1996.
 PF 27-MAR-1996; U04143.
 PR 27-MAR-1995; US-411098.
 PA (USSH) US DEPT HEALTH & HUMAN SERVICES.
 PI Hwu P, Nishimura M, Rosenberg SA;
 DR WPI: 96-465449/48.
 PT T cell receptor alpha and/or beta chains, and related nucleic acids;
 PR - useful in pharmaceutical compns. to prevent or treat cancer,
 PT partic. lung, melanoma, ovarian, colon, brain or kidney tumours
 PS Example 3: Page 11, 125pp; English
 CC W07378-W07381 are MART-1 epitopes, M9-1, M9-2, M10-3 and M10-4
 CC respectively, that are recognised by melanoma specific T lymphocyte
 CC receptors (TCRs). Melanoma-specific TCRs comprising an alpha and
 CC beta chain were made. Nucleic acids from either of these chains can be
 CC used as probes for the detection of expression of rearranged genes
 CC encoding tumour-associated antigens. The nucleic acids may also be used
 CC to create transgenic animals, useful as biological models to study cancer
 CC and evaluate diagnostic and therapeutic methods for the treatment of
 CC cancers, particularly melanomas. Antibodies (Abs) may be raised against
 CC alpha and beta chain polypeptides and used to detect native or denatured
 CC TCRs and/or alterations in expression levels of T cells carrying
 CC melanoma-specific TCRs. Abs can also purify and enrich T cells carrying
 CC the above receptors, which can then be administered therapeutically to
 CC mammals. Anti-idiotype antibodies can be used to assess the level of a
 CC specific T cell carrying these receptors in a mammal being treated using
 CC these methods. Host cells and vectors carrying nucleic acid encoding
 CC a TCR (or individual alpha or beta chain fragment) are useful in
 CC pharmaceutical compositions to prevent or treat cancer in a mammal, e.g.
 CC lung, melanoma, ovarian, colon, brain or kidney tumours.
 SO Sequence 10 AA;

Query Match 100.0%; Score 46; DB 1; Length 10;
 Best Local Similarity 100.0%; Pred. No. 0.002;
 Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 EAAGIGILTV 10
 DB 1 EAAGIGILTV 10

RESULT 3
 W22039
 ID W22039 standard; peptide: 10 AA.
 AC W22039;
 DT 20-FEB-1998 (first entry)
 DE Antigenic MART-1 peptide M10-3.
 KW Antigenic peptide; human papillomavirus; MART-1; M10-3; MAGE gene;
 KW human immunodeficiency virus; cancer antigen; tyrosinase; signal protein;
 KW anthrax lethal factor; LF; toxin; cationic fusion peptide; translocation;
 KW gene therapy; polycationic affinity handle; therapeutic protein; LFN.
 OS Homo sapiens.
 PN W09723336-A1.
 PD 03-JUL-1997.
 PR 13-DEC-1996; U20463.
 PR 07-JUN-1996; US-019275.
 PR 13-DEC-1995; US-008518.
 PA (HARD) HARVARD COLLEGE.
 PI Ballard JD, Blanke SR, Collier RJ, Lysak EL, Mline JC;
 PI Sternbach MN;
 PI WPI: 97-350782/32.
 PT Introducing therapeutic proteins, especially antigens, into cells
 PT using toxin molecules and/or polycationic handles for delivery
 PS Claim 15; Page 37; 67pp; English.
 CC This is the antigenic MART-1 peptide M10-3. This antigenic compound
 CC can be introduced into the cytoplasm of a cell by a new method where
 CC the cell is contacted with a fusion molecule comprising a delivery
 CC molecule. The delivery molecule can either be a polycationic affinity
 CC handle, LFN (the protective antigen binding domain of anthrax lethal
 CC factor) or a toxin delivery molecule related to LFN. The antigenic
 CC compound is linked to either of the delivery molecules by a covalent
 CC bond. The B moiety of a toxin enhances delivery of the antigenic compound
 CC into a cell. The anthrax toxin system of the invention eliminates the

CC need to generate fusion proteins with a toxin B moiety, which alleviates
 CC problems associated with incorrect folding of lengthy fusion proteins.
 CC Small cationic fusion peptides substituted for LFN may reduce the
 CC possibility of steric interference with the biological activity of the
 CC translocated protein. The method is used for the introduction of
 CC antigens, e.g. MHC class I antigens or any other therapeutic protein,
 CC e.g. toxin molecules, apoptosis-inducing molecules or signalling
 CC proteins into the cells.
 SO Sequence 10 AA;

Query Match 100.0%; Score 46; DB 1; Length 10;
 Best Local Similarity 100.0%; Pred. No. 0.002;
 Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 EAAGIGILTV 10
 DB 1 EAAGIGILTV 10

RESULT 4
 W32269
 ID W32269 standard; peptide: 10 AA.
 AC W32269;
 DT 13-MAR-1998 (first entry)
 DE Tumour rejection antigen #2.
 KW Tumour rejection antigen; immunogen; TRA; cytotoxic T cell; CTL;
 KW granulocyte-macrophage colony stimulating factor; GM-CSF; adjuvant.
 OS Homo sapiens.
 PN W09728016-A1.
 PD 14-AUG-1997.
 PR 28-JAN-1997; U01249.
 PR 09-FEB-1996; US-598909.
 PA (LUDW-) LUDWIG INST CANCER RES.
 PI Jager E, Knuth A;
 PI WPI: 97-415070/38.
 PT Composition containing immunogen and granulocyte macrophage colony
 PT stimulating factor as adjuvant - particularly for generating a
 PT cytotoxic T cell response to tumour antigens or their precursors
 PS Claim 7; Page 12; 37pp; English.
 CC This sequence represents a specifically claimed example of a tumour
 CC rejection antigen (TRA) which was used with granulocyte macrophage
 CC colony-stimulating factor (GM-CSF) as adjuvant to generate an immune,
 CC specifically cytolytic T cell (CTL), response for treatment of cancers
 CC or where cell transformation has occurred, e.g. in melanoma or dysplastic
 CC nevi. These tumour rejection antigens can also be used diagnostically (if
 CC they can induce CTL or antibodies specific for the antigens then this
 CC indicates presence of the antigen in the patient). GM-CSF provokes, or
 CC increases, immune response to the tumour rejection antigens.
 SO Sequence 10 AA;

Query Match 100.0%; Score 46; DB 1; Length 10;
 Best Local Similarity 100.0%; Pred. No. 0.002;
 Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 EAAGIGILTV 10
 DB 1 EAAGIGILTV 10

RESULT 5
 W39447
 ID W39447 standard; peptide: 10 AA.
 AC W39447;
 DT 11-JUN-1998 (first entry)
 DE Human HLA-A*0201 immunogenic peptide 10-mer.
 KW T cell epitope; immune response; human leukocyte antigen; MHC Class I;
 KW vaccine; immunogenic; major histocompatibility complex; MHC; B cell;
 KW disease; anti-tumour; anti-viral.
 OS Synthetic.
 PN W09741440-A1.
 PI

PD 06-NOV-1997.
 PF 28-APR-1997: NL0229.
 PR 23-DEC-1996: EP-203670.
 PR 26-APR-1996: EP-201145.
 PA (UYLE-) RIJKSUNIV LEIDEN.
 PA (SCIS-) SCI SEED CAPITAL INVESTMENTS BV.
 PI Kast WM, Meilief CDM, Offringa R, Toes REM, Van Der Burg SH;
 DR WPI: 97-549891/50.
 PT Method of selecting T cell peptide epitope(s) - by measuring the
 PT stability of HLA class I-peptide complexes on intact B cells
 PS Example 3: Page 29; 109pp: English.
 CC Peptides W39430-W39734 are used in a novel method for the selection of
 CC immunogenic T-cell peptide epitopes present in polypeptide antigens. The
 CC method involves the identification of peptide sequences capable of
 CC binding to an HLA (human leukocyte antigen) class I molecule and
 CC measuring the binding of this epitope peptide to the HLA class I peptide.
 CC The stability of binding of the peptide and MHC (major histocompatibility
 CC complex) class I molecule is measured on intact human B cells carrying
 CC the MHC molecule at their cell surfaces. The method can be used to select
 CC peptide epitopes for generating vaccines against a disease associated
 CC with the polypeptide, e.g. cancers or AIDS. The peptide epitopes are
 CC especially T-cell peptide epitopes with strong anti-tumour and anti-viral
 CC immune responses. Peptide W39447 is an immunodominant peptide-epitope
 CC presented by HLA-A*0201-positive melanoma cells and displays considerable
 CC binding to HLA-A*0201 in assays.
 SQ Sequence 10 AA;

Query Match 100.0%; Score 46; DB 1; Length 10;
 Best Local Similarity 100.0%; Pred. No. 0.002;
 Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 EAAGIGILTV 10
 Db 1 EAAGIGILTV 10

RESULT 6
 W54809
 ID W54809 standard: peptide: 10 AA.
 AC W54809;
 DT 29-SEP-1998 (first entry)
 DE Peptide 1 from Mart-1/Melan-A.
 KW Mannose: antigen; antigen-presenting cell; mannosylated peptide; T cell;
 KW vaccine; treatment.
 OS Synthetic.
 PN WO9813378-A1.
 PD 02-APR-1998.
 PF 25-SEP-1997: NI0536.
 PR 26-SEP-1996: EP-202701.
 PA (UYLE-) RIJKSUNIV LEIDEN.
 PI Dr1jthout JM, Konling F;
 DR WPI: 98-230631/20.
 PT Increasing uptake and presentation of antigen(s) - by adding mannose
 PT residues to antigen for increasing T cell response, useful in,
 PT e.g. vaccines against viral infection(s)
 PS Disclosure: Page 25; 47pp: English.
 CC The peptides W54559-W54809 are examples of peptides to which at least 1
 CC (preferably 2) mannose can be attached to increase their uptake as
 CC antigens by antigen-presenting cells. Uptake of agonist mannosylated
 CC peptides will increase the T cell response, whereas uptake of antagonist
 CC peptides blocks the T cell response. Blocking binding of antagonist
 CC autoantigens can be used in treatment of type I diabetes, rheumatoid
 CC arthritis, graft rejection etc., also to induce T-cell non-
 CC responsiveness. Vaccines containing mannosylated antigen are used to
 CC prevent or treat infections by, e.g. bacteria, viruses, fungi, helminths
 CC and parasites.
 SQ Sequence 10 AA;

Query Match 100.0%; Score 46; DB 1; Length 10;
 Best Local Similarity 100.0%; Pred. No. 0.002;
 Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 EAAGIGILTV 10
 Db 1 EAAGIGILTV 10

RESULT 7
 W98939
 ID W98939 standard: peptide: 10 AA.
 AC W98939;
 DT 06-MAY-1999 (first entry)
 DE Human leukocyte antigen A2 molecule binding peptide SEQ ID NO:1.
 KW Human leukocyte antigen; HLA; HLA-A2 binding peptide; T cell;
 KW cytolytic T cell; CTL.
 OS Synthetic.
 PN WO9858951-A1.
 PD 30-DEC-1998.
 PF 18-JUN-1998: U12879.
 PR 16-APR-1998: US-061388.
 PR 23-JUN-1997: US-880963.
 PA (LUDW-) LUDWIG INST CANCER RES.
 PI Cerottini J, Romero P, Valmori D;
 DR WPI: 99-103609/09.
 PT New dodecamer peptides which bind to HLA molecules - useful to
 PT identify HLA-A2 positive cells and provoke T cells
 PS Claim 18: Page 6; 45pp: English.
 CC The present invention describes peptides which bind to an HLA-A2
 CC molecule and have Val at the carboxy terminus, and either: (a) Ala, Tyr
 CC or Phe at the amino terminus, and Ala at position 2 (P1); or (b) Glu at
 CC the amino terminus, and Ala, Leu, or Met at positions 2 and 3, with the
 CC proviso that Ala is not at both positions (P2). The present sequence
 CC represents an HLA-A2 binding peptide. The peptides of the present
 CC invention are used to identify HLA-A2 positive cells, provoke T cells,
 CC and determine the presence of HLA-A2 binding peptide. The peptides of the present
 CC T cells (CTLs). They provide a better target than the prior art
 CC CTL-stimulating peptide.
 SQ Sequence 10 AA;

Query Match 100.0%; Score 46; DB 1; Length 10;
 Best Local Similarity 100.0%; Pred. No. 0.002;
 Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 EAAGIGILTV 10
 Db 1 EAAGIGILTV 10

RESULT 8
 Y00712
 ID Y00712 standard: peptide: 10 AA.
 AC Y00712;
 DT 12-MAY-1999 (first entry)
 DE Tumour antigen booster peptide Melan-A/MART-1 HLA-A2 #1.
 KW Tumour antigen; booster peptide; immune response modulation; allergy;
 KW immune response enhancer; tumour cell; tumour rejection antigen;
 KW leukocyte antigen-presenting molecule; autoimmune disease;
 KW allograft rejection.
 OS Homo sapiens.
 PN WO9858956-A2.
 PD 30-DEC-1998.
 PF 19-JUN-1998: U12894.
 PR 23-JUN-1997: US-880979.
 PA (LUDW-) LUDWIG INST CANCER RES.
 PI Boon-Falleur T, Uytendhoeve C, Warnier G;
 DR WPI: 99-105612/09.
 PT Immunization methods using viruses expressing antigen for priming
 PT and booster immunizations - useful for modulating immune responses
 PT against antigen, e.g. enhancing immune response against tumour cells
 PS expressing tumour rejection antigens
 Disclosure: Page 10; 33pp: English.
 CC This sequence represents a tumour antigen booster peptide that can be

used in the method of the invention. The method is for for modulating an immune response in a mammal against an antigen, and comprising:
(a) inducing an immune response by: (i) administering a virus containing a nucleic acid molecule encoding the antigen or its precursor to generate an immune response; and (ii) administering at least one booster dose comprising a peptide including the antigen, in an adjuvant, in a combined amount effective to enhance the initial immune response; or
(b) reducing an immune response as defined for (A) but using a non-adjuvant with the peptide which includes the antigen, in an amount effective to reduce the initial immune response. Method (A) is used to enhance the immune response against tumour cells expressing tumour rejection antigens, and against pathogens in subjects having human leukocyte antigen-presenting molecules. Method (B) is used to reduce the immune response in allergy, autoimmune disease, and allograft rejection.
Method (A) provides an immunisation method which, unlike prior art, is not limited by the host immune response against viral vectors.

Query Match 100.0%; Score 46; DB 1; Length 10;
Best Local Similarity 100.0%; Pred. No. 0.002;
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 EAAGIGILTV 10
DB 1 EAAGIGILTV 10

RESULT 9
Y01750 standard; Peptide; 10 AA.

AC Y01750;
DE 25-JUN-1999 (first entry)
KW Exemplary antigenic peptide derived from Melan-A(MART-1).
KW MAGE-3: tumour associated gene; human leucocyte antigen Class II;
KW autologous CD4+ cell; MAGE-3 related disease; cancer; melanoma;
KW osteosarcoma; leukemia; carcinoma.
OS Homo sapiens.
PN WO9914326-A1.
PD 25-MAR-1999.
PF 04-SEP-1998; US-928615.
PR 12-SEP-1997; US-928615.
PA (LUDW-) LUDWIG INST CANCER RES.
PI Boon-Fallieur T, Chaux P, Cortals J, Helman C,
P Luiten R, Stroobant V, Thielemans K, Van Der Bruggen P;
DR WPI: 99-244031/20.
PT Isolated peptides that bind to human leucocyte antigen class II
PT molecules
PS Disclosures: Page 29; 88pp; English.
CC The present sequence represents an exemplary tumour associated peptide
CC antigen. The specification describes a MAGE-3 tumour associated gene.
CC Peptides (Y01721-25) that bind human leucocyte antigen (HLA) Class II
CC molecules can be derived from the MAGE-3 protein. These peptides and
CC autologous CD4+ cells that bind to a complex of MAGE-3 peptide
CC and HLA Class II, are used to treat MAGE-3 related diseases,
CC particularly cancers (e.g. melanoma, osteosarcoma, leukemia and
CC various forms of carcinoma). The peptides are also used to produce
CC specific antibodies. Detection of the peptides, e.g. in binding
CC assays, particularly with antibodies, is used for diagnosis of such
CC diseases.

SQ Sequence 10 AA;

Query Match 100.0%; Score 46; DB 1; Length 10;
Best Local Similarity 100.0%; Pred. No. 0.002;
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 EAAGIGILTV 10
DB 1 EAAGIGILTV 10

RESULT 10

R84196
ID R84196 standard; Peptide; 9 AA.

AC R84196; 1996 (first entry)
DE MART-1 melanoma antigen immunogenic peptide M9-2.
KW MART-1; M9-2; melanoma antigen recognised by T-cells; melanoma;
KW metastatic melanoma; tumour-associated antigen;
KW immunogenic peptide; diagnosis; prognosis; prophylaxis;
KW therapy; vaccine.
OS Synthetic.
PN WO9529193-A2.
PD 02-NOV-1995.
PF 21-APR-1995; US05063.
PR 22-APR-1994; US-231565.
PA (USSH) US SEC DEPT HEALTH.
PI Kawakami Y, Rosenberg SA;
DR WPI: 95-382963/49.
PT DNA encoding melanoma antigens recognised by T-lymphocytes - also
PT vectors, host cells and antibodies, used to detect, treat and
PT immunise animal against melanoma.
PS Claim 12; Page 117; 184pp; English.
CC Immunogenic peptide M9-2 is based on the melanoma antigen (MART-1)
CC (see R84312). M9-2 may be modified to improve immunogenicity
CC (see R84783-R84800) and used in medicaments for the treatment or
CC prevention (by immunization) of melanoma. Antibodies against MART-1
CC and its immunogenic peptides may be used in the detection and
CC isolation of MART-1 from a sample, the detection of which is
CC indicative of a disease state (melanoma or metastatic melanoma).

SQ Sequence 9 AA;

Query Match 89.1%; Score 41; DB 1; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.5e+05;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 2 AAGIGILTV 10
DB 1 AAGIGILTV 9

RESULT 11
W07379 standard; Peptide; 9 AA.

AC W07379;
DE 28-JUL-1997 (first entry)
KW MART-1 epitope recognised by melanoma specific T cell receptor.
KW T cell; receptor; lymphocyte; alpha; beta chain; V; variable;
KW J; joining; D; diversity; gene segment; probe; detection;
KW recombination; melanoma; cancer; neoplasia; tumour; diagnosis;
KW MART; Melanoma Antigen Recognised by T lymphocyte.
OS Homo sapiens.
PN WO9630516-A1.
PD 03-OCT-1996.
PF 27-MAR-1996; US04143.
PR 27-MAR-1995; US-411098.
PA (USSH) US DEPT HEALTH & HUMAN SERVICES.
PI Hsu P, Nishimura M, Rosenberg SA;
DR WPI: 96-485449/48.
PT T cell receptor alpha and/or beta chains, and related nucleic acids
PT - useful in pharmaceutical compns. to prevent or treat cancer.
PT partic. lung, melanoma, ovarian, colon, brain or kidney tumours
PS Example 3; Page 11; 125pp; English
CC W07378-W07381 are MART-1 epitopes, M9-1, M9-2, M10-3 and M10-4
CC respectively, that are recognised by melanoma specific T lymphocyte
CC receptors (TCRs). Melanoma-specific TCRs comprising an alpha and
CC beta chain were made. Nucleic acids from either of these chains can be
CC used as probes for the detection of expression of rearranged genes
CC encoding tumour-associated antigens. The nucleic acids may also be used
CC to create transgenic animals, useful as biological models to study cancer
CC and evaluate diagnostic and therapeutic methods for the treatment of
CC cancers, particularly melanomas. Antibodies (Abs) may be raised against

CC alpha and beta chain polypeptides and used to detect native or denatured
 CC TCRs and/or alterations in expression levels of T cells carrying
 CC melanoma-specific TCRs. Abs can also purify and enrich T cells carrying
 CC the above receptors, which can then be administered therapeutically to
 CC mammals. Anti-idiotypic antibodies can be used to assess the level of a
 CC specific T cell carrying these receptors in a mammal being treated using
 CC these methods. Host cells and vectors carrying nucleic acid encoding
 CC a TCR (or individual alpha or beta chain fragment) are useful in
 CC pharmaceutical compositions to prevent or treat cancer in a mammal, e.g.
 CC lung, melanoma, ovarian, colon, brain or kidney tumours.
 S0 Sequence 9 AA:

Query Match 89.1%; Score 41; DB 1; Length 9;
 Best Local Similarity 100.0%; Pred. No. 1.5e+05;
 Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 2 AAGIGILTV 10
 Db 1 AAGIGILTV 9

RESULT 12
 W35512 standard; peptide: 9 AA.
 ID W35512:
 AC W35512:
 DT 22-APR-1998 (first entry)
 DE MART-1/Melan-A protein peptide SEQ ID NO:44 from W09738011.
 KW T-cell stimulatory peptide; immunogen; non-dendritic; carrier; tumour;
 KW scaffold; inhibition; metastasis; wound healing; solid phase.
 OS unidentified.
 PN W09738011-A1.
 PD 16-OCT-1997.
 PE 03-APR-1997; D00146.
 PR 03-APR-1996; DK-000398.
 PA (PEPR-) PEPRSEARCH AS.
 PI Heegaard PM, Jakobsen PH;
 DR WPI: 97-512645/47.
 PT Non-dendritic peptide carrier linked to a solid phase - useful as a
 PT diagnostic agent and as a scaffold for production of chemical
 PT derivatives
 PS Example 26; Page 146; 262pp; English.
 CC A non-dendritic peptide carrier (A) has been developed which is coupled
 CC through a linker to a solid phase, forming a complex of (A)-solid phase.
 CC Where (A) comprises 10-50 amino acids capable of forming a secondary
 CC structure in a benign buffer after liberation from the solid phase, and
 CC further the (A)-solid phase complex comprises an immunogenic substance
 CC and/or an immune mediator coupled on (A). The present sequence
 CC represents a peptide used in an example from the present invention. An
 CC (A)-solid phase complex can be used as a scaffold for the production of
 CC chemical derivatives, characterised by covalently attaching molecules at
 CC attachment points. Alternatively (A) is used as a scaffold-peptide for
 CC the incorporation into an immunostimulating complex (Iscom) resulting an
 CC (A)-Iscom complex which is used for the chemical coupling of antigenic
 CC substances in an aqueous solution by conjugation. (A) derivatised with
 CC one or more peptides having fibronectin-, laminin- or vitronectin-like
 CC binding activities can be used for the promotion of cell-attachment to
 CC plastic surfaces, in particular to inhibit tumour growth and metastasis,
 CC and for promotion of wound healing. Also a derivatised (A) can be used
 CC for the selection of specifically-binding aptamers or as a diagnostic
 CC agent. Such diagnostic (A) molecules could be used to detect molecules
 CC derived from or indicative of pregnancy or of a disease, such as an
 CC infectious, autoimmune or cancerous disease.
 S0 Sequence 9 AA:

Query Match 89.1%; Score 41; DB 1; Length 9;
 Best Local Similarity 100.0%; Pred. No. 1.5e+05;
 Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 2 AAGIGILTV 10
 Db 1 AAGIGILTV 9

RESULT 13
 W39430 standard; peptide: 9 AA.
 ID W39430:
 AC W39430:
 DT 11-JUN-1998 (first entry)
 DE Human immunogenic T cell epitope 1.
 KW T cell epitope; immune response; human leukocyte antigen; HLA Class I;
 KW vaccine; immunogenic; major histocompatibility complex; MHC; B cell;
 KW disease; anti-tumour; anti-viral.
 OS Synthetic.
 PN Homo sapiens.
 PD W09741440-A1.
 PE 06-NOV-1997.
 PR 28-APR-1997; N10229.
 PR 23-DEC-1996; EP-203670.
 PR 26-APR-1996; EP-201145.
 PA (UYLE-) RIJSDUNTV LEIDEN.
 PA (SCIS-) SCI SEED CAPITAL INVESTMENTS BV
 PI Kast WM, Mellef CDM, Offringa R, Toes RM, Van Der Burg SH;
 DR WPI: 97-549891/50.
 PT Method of selecting T cell peptide epitope(s) - by measuring the
 PT stability of HLA class I-peptide complexes on intact B cells
 PS Disclosure; Page 6; 109pp; English.

CC Peptides W39430-W39734 are used in a novel method for the selection of
 CC immunogenic T-cell peptide epitopes present in polypeptide antigens.
 CC Peptides W39430 and W39431 are derived from MART-1. The method involves
 CC the identification of peptide sequences capable of binding to an HLA
 CC (human leukocyte antigen) class I molecule and measuring the binding of
 CC this epitope peptide to the HLA class I peptide. The stability of binding
 CC of the peptide and MHC (major histocompatibility complex) class I
 CC molecule is measured on intact human B cells carrying the MHC molecule at
 CC their cell surfaces. The method can be used to select peptide epitopes
 CC for generating vaccines against a disease associated with the
 CC polypeptide, e.g. cancers or AIDS. The peptide epitopes are especially
 CC T-cell peptide epitopes with strong anti-tumour and anti-viral immune
 CC responses.
 S0 Sequence 9 AA:

Query Match 89.1%; Score 41; DB 1; Length 9;
 Best Local Similarity 100.0%; Pred. No. 1.5e+05;
 Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 2 AAGIGILTV 10
 Db 1 AAGIGILTV 9

RESULT 14
 W42523 standard; peptide: 9 AA.
 ID W42523:
 AC W42523:
 DT 22-JUN-1998 (first entry)
 DE Melan A/MART epitope (residues 27-35).
 KW Metastatic melanoma; peptide analogue; vaccine; cancer; diagnosis;
 KW antigen; CTL; immunogenic; viral disease; gp 100; Melan A/MART-1.
 OS Synthetic.
 PN Homo sapiens.
 PD W09802538-A1.
 PE 22-JAN-1998.
 PR 08-JUL-1997; E03712.
 PR 11-JUL-1996; EP-201945.
 PA (ADKV) AKZO NOBEL NV.
 PI Adema GJ, Figdor CG;
 DR WPI: 98-110586/10.
 PT Melanoma associated peptide analogues - useful in vaccines against
 PT melanoma
 PS Example 1; Page 28; 47pp; English.
 CC This sequence is shown in the specification. The invention relates to
 CC peptides, which are immunogenic with lymphocytes directed against
 CC metastatic melanomas. They are characterised in that they comprise at

CC least a part of the following sequence, where the amino acid at position
 CC 2 or 8 is substituted: Lys-Thr-Tyr-Gly-Gln-Tyr-Tyr-Gln-Val. Vaccines
 CC comprising the peptide, an epitope of the peptide, nucleotide sequence
 CC encoding the peptide, or an antigen presenting cell preloaded with the
 CC peptide or antibody as above, are useful for cancer, particularly
 CC melanoma, treatment. The peptides can also be used to generate antigen
 CC reactive tumour infiltrating lymphocytes, which can also be used in
 CC vaccines. The peptides can be exploited to elicit native epitope-reactive
 CC CTL. Usage of the peptides with improved immunogenicity may contribute
 CC to the development of CTL-epitope based vaccines in viral disease and
 CC cancer.
 SQ Sequence 9 AA;

Query Match 89.1%; Score 41; DB 1; Length 9;
 Best Local Similarity 100.0%; Pred. No. 1.5e+05;
 Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 2 AAGIGILTV 10
 |||||
 DB 1 AAGIGILTV 9

RESULT 15
 ID W54602 standard; peptide; 9 AA.
 AC W54602;
 DT 25-SEP-1998 (first entry)
 DE Peptide 1 from Melan-A/Marc-1.
 KM Mannose; antigen; antigen-presenting cell; mannosylated peptide; T cell;
 KM vaccine; treatment.
 OS Synthetic.
 PN MO9813378-A1.
 PD 02-APR-1998.
 PF 25-SEP-1997; NL0536.
 PR 26-SEP-1996; EP-202701.
 PA (UVE-) RIJXSUNIV LEIDEN.
 PI Driljhou JW, Konig F;
 DR WPI; 98-230631/20.
 PT Increasing uptake and presentation of antigen(s) - by adding mannose
 PT residue(s) to antigen for increasing T cell response, useful in,
 PT e.g. vaccines against viral infection(s)
 PS Disclosure; Page 24; 47pp; English.
 CC The peptides W54559-W54809 are examples of peptides to which at least 1
 CC (preferably 2) mannose can be attached to increase their uptake as
 CC antigens by antigen-presenting cells. Uptake of agonist mannosylated
 CC peptides will increase the T cell response, whereas uptake of antagonist
 CC peptides blocks the T cell response. Blocking binding of immunogenic
 CC autoantigens can be used in treatment of type I diabetes, rheumatoid
 CC arthritis, graft rejection etc., also to induce T-cell non-
 CC responsiveness. Vaccines containing mannosylated antigen are used to
 CC prevent or treat infections by, e.g. bacteria, viruses, fungi, helminths
 CC and parasites.
 SQ Sequence 9 AA;

Query Match 89.1%; Score 41; DB 1; Length 9;
 Best Local Similarity 100.0%; Pred. No. 1.5e+05;
 Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 2 AAGIGILTV 10
 |||||
 DB 1 AAGIGILTV 9

Search completed: September 22, 2000, 21:15:19
 Job time: 10207 sec

VERY IMPORTANT NOTE ABOUT PENDING FILE SEARCHES

This search contains results from one or more of the "Pending" databases :

Pending_Patents_AA
Pending_Patents_NA
n-pending
a-pending

Results from these databases have file names with one or both of the following extensions:

.rap .mp

Results from the "Pending" databases should not be left in the case during prosecution or after the case issues, since they contain pending data that is confidential.